

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of:

Rajendra Tushar Moorti, et al.

Serial No.: 10/810,462

Filed: March 26, 2004

For: Method and System for Antenna
Selection Diversity with Dynamic
Gain Control

Examiner: Charles Chiang Chow

Group Art Unit: 2618

Confirmation No.: 9326

Electronically filed on April 18, 2007

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The Applicant requests review of the final rejection in the above-identified application, stated in the final Office Action mailed on December 18, 2006 (hereinafter, the Final Office Action) with a period of reply through March 18, 2007, pursuant to the attached Petition for a one (1) Month Extension of Time. The Applicant also requests review of the arguments stated on page 2 of the Advisory Office Action mailed on March 21, 2007 (hereinafter, the Advisory Office Action). No amendments are being filed with this request.

This request is being filed with a Notice of Appeal. The review is being requested for the reasons stated on the attached sheets.

REMARKS

The present application includes pending claims 1-33, claims 1-30 of which have been rejected. Claims 1, 9, 11, 19, 21, and 29 stand rejected under 35 U.S.C. § 102(e) as being anticipated by US Patent No. 5,648,992, issued to Wright, et al. ("Wright"). Claims 2, 4, 6, 12, 14, 16, 22, 24, and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wright in view of U.S. Patent No. 5,787,122, issued to Suzuki ("Suzuki"). Claims 3, 13, and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wright in view of Suzuki, and further in view of U.S. Patent No. 6,922,549, issued to Lyons, et al. ("Lyons"). Claims 5, 15, and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wright in view of Suzuki, and further in view of U.S. Patent No. 5,481,571, issued to Balachandran, et al. ("Balachandran"). Claims 7, 17, and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wright in view of Suzuki, and further in view of Lyons. Claims 10, 20, and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wright in view of Suzuki, and further in view of U.S. Patent No. 6,002,672, issued to Todd ("Todd"). The Applicant respectfully submits that the claims define patentable subject matter. The Applicant also respectfully traverses these rejections at least for the following reasons:

I. Rejection of Claims under 35 U.S.C. § 102(e)

The Applicants first turns to the rejection of claims 1, 11, and 21 under 35 U.S.C. 102(e) as being anticipated by Wright. With regard to the anticipation rejections under 102(e), MPEP 2131 states that "[a] claim is anticipated only if **each and every element** as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." See Manual of Patent Examining Procedure (MPEP) at 2131 (internal citation omitted). Furthermore, "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." See *id.* (internal citation omitted).

Wright discloses "a method for combining antenna diversity and gain control in a communications system using a single chain of receiver electronics." See Wright at Abstract.

A. Rejection of Independent Claim 1 under 35 U.S.C. § 102 (e)

With regard to the rejection of independent claim 1 under Wright, the Applicant submits that Wright does not disclose or suggest at least the limitation of "selecting for signal processing a portion of said dwelled-on at least one of a plurality of antennas **based on said determined gain and said determined at least one of a plurality of signal quality metrics** from said dwelled-on at least one of a plurality of antennas," as recited by the Applicant in independent claim 1 (emphasis added).

The Office Action refers for support to Figures 3 and 4 of Wright, as well as column 4, line 65 – column 5, line 21 of Wright. See the Office Action at page 2. The Applicants respectfully disagree. Wright discloses the following:

Switch 14 couples either the first antenna 10 or the second antenna 12 to the receiver electronics depending upon the diversity control indicator 29

which is an input to switch 14. A signal transmitted from a portable handset is received by the selected antenna and passed to the gain control switch 18 by switch 14. Depending upon the gain control indicator 28, *the gain control switch 18 selects one of three gain paths 15, 19 or 17.* In particular switch 18 is configured to receive the gain control indicator 28 and select either the gain path 15, the no gain path 19, or the attenuation path 17. (emphasis added).

See Wright at col. 4, lines 21-31. In this regard, Wright discloses that the switch 14 selects between antenna 10 or antenna 12 based only on diversity control indicator 29. The diversity control indicator, however, is based on the received signal data, frequency variance, timing variance and RSSI. See Wright, col. 4, lines 65-67. Furthermore, gain information within the base station receiver structure disclosed by Wright in Figure 3 is relevant only with regard to switch 18, i.e., only after an antenna has been selected by switch 14. For example, based on the gain control signal 28, the signal from the selected antenna is amplified, attenuated, or left unchanged as it passes through gain paths 15, 17, or 19, respectively. See *id.* at Figure 3 and col. 4, lines 21-31.

Regarding to the Advisory Office Action, the Examiner seeks further support for the above limitation of **“based on said determined gain and said determined at least one of a plurality of signal quality metrics”** by referring to Figure 7 and stating that “the antenna selection is based on the determined quality SQI in step 170 and the gain control 178, to select one of the antennas [the antenna selection via step 180” See the Advisory Office Action at page 2. The Applicants respectfully disagree. Wright discloses that “[i]f the SQI is ‘POOR’ as determined at 170, both the antenna diversity procedure and the gain control procedure are enabled at 178 and 180, respectively.” See Wright, col. 7, lines 30-33 (emphasis added). In this regard, Wright discloses using the signal quality indicator (SQI) to enable both gain control and antenna diversity procedures when the SQI is “POOR” but does not disclose utilizing the SQI and the gain control to enable antenna selection through the antenna diversity procedure as indicated in the Advisory Office Action. Therefore, Wright does not disclose or suggest the limitation of “selecting for signal processing a portion of said dwelled-on at least one of a plurality of antennas based on said determined gain and said determined at least one of a plurality of signal quality metrics from said dwelled-on at least one of a plurality of antennas,” as recited by the Applicant in independent claim 1 (emphasis added).

Accordingly, independent claim 1 is not anticipated by Wright and is allowable. Independent claims 11 and 21 are similar in many respects to the method disclosed in independent claim 1. Therefore, the Applicant submits that independent claims 11 and 21 are also allowable over the references cited in the Office Action at least for the reasons stated above with regard to claim 1.

B. Rejection of Dependent Claims 9, 19, and 29

Based on at least the foregoing, the Applicants believe the rejection of independent claims 1, 11, and 21 under 35 U.S.C. § 102(e) as being anticipated by Wright has been overcome and request that the rejection be withdrawn. Additionally,

claims 9, 19, and 29 depend from independent claims 1, 11, and 21, respectively, and are, consequently, also respectfully submitted to be allowable.

The Applicants also reserve the right to argue additional reasons beyond those set forth above to support the allowability of claims 1-30.

II. Rejection of Claims under 35 U.S.C. § 103(a)

With regard to an obviousness rejection, MPEP 2142 states that in order for a prima facie case of obviousness to be established, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, *the prior art reference (or references when combined) must teach or suggest all the claim limitations*. Further, MPEP 2143.01 states that “the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art suggests the desirability of the combination,” and that “although a prior art device ‘may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so’” (citing *In re Mills*, 916 F.2d 680, 16 USPQ 2d 1430 (Fed. Cir. 1990)). Moreover, MPEP 2143.01 also states that the level of ordinary skill in the art cannot be relied upon to provide the suggestion...,” citing *AI-Site Corp. v. VSI Int’l Inc.*, 174 F.3d 1308, 50 USPQ 2d 1161 (Fed. Cir. 1999).

Based on at least the foregoing, the Applicants believe the rejection of independent claims 1, 11, and 21 under 35 U.S.C. § 102(e) as being anticipated by Wright has been overcome and request that the rejection be withdrawn. Additionally, since the additional cited references (Suzuki, Lyons, Balachandran, and Todd) do not overcome the deficiencies of Wright, claims 2-7, 10, 12-17, 20, 22-27, and 30 depend from independent claims 1, 11, and 21, and are, consequently, also respectfully submitted to be allowable.

Applicants also reserve the right to argue additional reasons beyond those set forth above to support the allowability of claims 1-30.

III. Conclusion

The Applicant respectfully submits that claims 1-30 of the present application should be in condition for allowance at least for the reasons discussed above and request that the outstanding rejections be reconsidered and withdrawn. The Commissioner is authorized to charge any necessary fees or credit any overpayment to the Deposit Account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

Respectfully submitted,

Date: April 18, 2007

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